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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Slater et al  
SERIAL NO.: 10/692,962 CONF NO.: 1828  
FILING DATE: October 23, 2003  
TITLE: HTTP REDIRECTION OF CONFIGURATION DATA FOR  
NETWORK DEVICES  
PATENT NO.: 6,895,433  
ISSUED: May 17, 2005  
EXAMINER: Nabil El-Hady  
ART UNIT: 2154

Certificate  
OCT 26 2005  
of Correction

**CERTIFICATE OF MAILING**

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Date: October 18, 2005

Name: PSH  
Penelope Sherman

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**TRANSMITTAL FOR CERTIFICATE OF CORRECTION**

We enclose, pursuant to the provisions of 37 C.F.R. §1.322, a Certificate of  
Correction for United States Patent No. 6,895,433. Please make the Certificate of  
Correction and the statements herein of record.

The corrections made to the above-identified United States Patent in the Certificate  
of Correction filed herewith are to correct mistakes which are of a minor character  
according to 35 U.S.C. §254 and 37 C.F.R. §1.322. The proposed corrections do not

000220)

constitute such changes in the patent as would constitute new matter or would require re-examination.

37 C.F.R. §1.322 Corrections

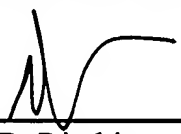
Please see attached Certificate of Correction 1-10.

No Fee Due

It is believed that no fee is required for filing the above-noted document. In the event any fee is required for filing of this Certificate of Correction, the Assistant Commissioner is hereby authorized to charge the fee to our Deposit Account No. 50-1698.

Respectfully submitted,  
THELEN REID & PRIEST LLP

Dated: October 6, 2005

  
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## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 6,895,433 *B1*

DATED : May 17, 2005

INVENTOR(S) : Slater et al.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

- 1) On page 2 under U.S. PATENT DOCUMENTS, replace "6,112,657 A 9/2000 Hoffman, Jr. et al." with -- 6,122,657 A 9/2000 Hoffman, Jr. et al.--.
- 2) On page 2 under OTHER PUBLICATIONS after Bedford, MA., insert --1998--.
- 3) In column 1 line 8, replace "ON" with --INVENTION--.
- 4) In column 8 line 43, replace "MB" with --MIB--.
- 5) In column 8 line 48, replace "MB" with --MIB--.
- 6) In column 8 line 60, replace "MB" with --MIB--.
- 7) In column 8 line 66, replace "MB" with --MIB--.
- 8) In column 13 line 17, replace "AU" with --All--.
- 9) In column 15 line 30, replace "H=connection" with --HTTP connection--.
- 10) In column 18, line 6, replace "claim 1, " with --claim 11, --.

MAILING ADDRESS OF SENDER: Thelen, Reid & Priest  
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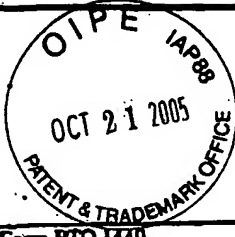
PATENT NO. 6,895,433

No. of additional copies

 1

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Page 3 of 6[illegible]



## 5

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## 10

← Correction 3

## 15

## Background

## 20

25 information on centrally located systems or systems that are located at remote

LAN switch. The switch MIB files may be compiled with network management software, which then permits the SNMP agent to respond to MIB-related queries being sent by the NMS.

5        An example of an NMS is the CiscoWorks™ network management software, available from Cisco Systems, Inc. of San Jose, California. CiscoWorks™ uses the switch MIB variables to set device variables and to poll devices on the network for specific information. Among other tasks, the CiscoWorks™ software permits the results of a poll to be displayed as a graph  
10    and analyzed in order to troubleshoot internetworking problems, increase network performance, verify the configuration of devices, and monitor traffic loads. Other products known to those of ordinary skill in the art, available from several other vendors, provide similar functionality.

15        Referring now to FIG. 6, an exemplary SNMP network 84 is shown. The SNMP agent 86 in network device 88 gathers data from the MIB 90, also in network device 88. The MIB 90 is the repository for information about device parameters and network data. The SNMP agent 86 can send traps, or notification of certain events, to the SNMP manager 92, which is part of the Network  
20    Management Software ("NMS") 94 running on the management console 96. The SNMP manager 92 uses information in the MIB 90 to perform the operations described in Table 1.

According to embodiments of the present invention, when a cluster is formed, the commander switch automatically changes three parameters on all the expansion switches in the cluster: the IOS host name, the enable password, and the SNMP community string. If a switch has not been assigned an IOS host name, the commander switch appends a number to the name of the commander switch and assigns it sequentially to the expansion switches. For example, a commander switch named *eng-cluster* could name a cluster expansion switch *eng-cluster-5*. If an IOS host name has already been assigned to a switch, the switch retains its IOS host name.

10

Once a cluster has been created, network management software such as the Cluster Manager™ program, available from the assignee of the present invention, may be used to monitor and configure the switches in the cluster. FIG. 11 shows a switch cluster with one commander switch 100 and four expansion switches 102-A – 102-D as it is displayed on a sample Cluster Manager™ page.

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One advantage of the present invention is that a network administrator need set only one IP address, one password, and one system SNMP configuration in order to manage an entire cluster of switches. A cluster can be formed from switches located in several different buildings on a campus, and may be linked by fiber optic, Fast Ethernet, or Gigabit Ethernet connections.

20

Clusters may be managed from a management station through ASCII terminal consoles, telnet sessions, SNMP management stations and Web Consoles.

← Correction 8  
25 All configuration and management requests are first directed to the cluster



commander or redirected to an expansion switch. If an HTTP request is redirected to an expansion switch, the response is also redirected back to the original requestor.

- 5 In embodiments of the present invention, HTTP redirection thus provides a way to access web pages stored on an expansion switch via the commander. Redirection is done by the commander when the URL is of the form:

`http://commander_hostname_or_IP/es[n]/file`

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where [n] corresponds to the number of the expansion switch in the cluster. For example, the following two URL's would both reference the file *file\_1.html* on expansion switch 3:

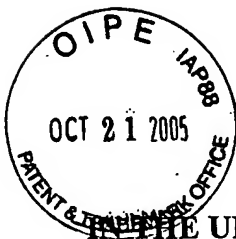
`http://10.10.10.10/es3/file_1.html`

15 or

`http://www.switch_cluster.com/es3/file_1.html .`

- Unless the HTML specifies a host, hypertext references from Web pages retrieved from expansion switch es[n] refer to files on expansion switch es[n].
- 20 For example, `http://www.switch_cluster.com/es3/file_1.html` provides web console access to expansion switch 3.

FIG. 15 illustrates how the HTTP redirector works. First, a TCP connection is established from a Web browser in the management station 104 to the HTTP  
server on the commander 100. Information about this HTTP connection is stored  
25



Attorney Docket No.: CISCO-8314  
(032590-000220)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANT: Charles Slater et al.  
SERIAL NO.: 10/692,962  
FILING DATE: October 23, 2003  
TITLE: HTTP Redirection of Configuration Data for Network Devices  
EXAMINER: Nabil M. El-Hady (Tel. No.: (703) 308-7990)  
(Fax No.: (703) 872-9306)  
ART UNIT: 2154

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Carol Diez  
Carol Diez

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT AND RESPONSE TO OFFICE ACTION**

Dear Sir:

This paper is responsive to the Office Action mailed **July 22, 2004**. Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks begin on page 13 of this paper.

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54. (Previously Presented) The first network device in accordance with claim 46, wherein the URI comprise a string specific to the corresponding network device.
55. (Previously Presented) The first network device in accordance with claim 46, further comprising:  
a processing module adapted to locally process the request if the URI does not indicate any one of the network devices in the cluster.
56. (Previously Presented) The first network device in accordance with claim 46, further comprising:  
a response redirector for redirecting a response from a network device in the cluster to the management station.
57. (Previously Presented) The first network device in accordance with claim 56, wherein said response redirector includes:  
a read module for reading response data in the response from the forwarding HTTP connection; and  
a write module for writing the response data to the first HTTP connection.
58. (Previously Presented) The first network device in accordance with claim 46, further comprising: